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# Inaugural Dissertation

ON THAT GRADE OF THĒ INTESTINAL STATE  
OF FEVER KNOWN BY THĒ NAME OF

# D Y S E N T E R Y.

Submitted to the Examination of

THE REV. JOHN EWING, S.T.P. *PROVOST*,

*T H E*

TRUSTEES AND MEDICAL FACULTY

*O F T H E*

*UNIVERSITY OF PENNSYLVANIA.*

On the 12th Day of May, 1797.

For the DEGREE of DOCTOR of MEDICINE.

=====✓=====

By JAMES FISHER, of DELAWARE,  
Member of the Philadelphia Medical Society.

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T O

JAMES WOODHOUSE, M. D.

PROFESSOR OF CHEMISTRY

· I N   T H E

UNIVERSITY OF PENNSYLVANIA,

As an acknowledgement of many favours, both  
in a public and private capacity, this  
Thesis is respectfully inscribed, by  
His much obliged Friend,

THE AUTHOR.

T O

*Elijah Barratt, Physician,*

*IN KENT COUNTY, DELAWARE,*

T H I S   D I S S E R T A T I O N ,

The FIRST FRUITS OF A MEDICAL EDUCATION,

Commenced under his Care,

*IS WITH GREAT RESPECT INSCRIBED,*

By his very affectionate Friend and Pupil,

THE AUTHOR,



# INTRODUCTION.

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**T**HERE is perhaps, no disease, to which mankind are subject, that more deserves the attention of physicians, or upon which more has been said, and more contradictory opinions advanced, than the Dysentery. And notwithstanding the many improvements that have been made in medical science; it is too true, that it still continues to be one of the greatest sources of human misery amongst us; particularly in fleets and armies, of which it has been, and still remains the scourge in every part of the globe.

It would however be happy for us, were its dreadful effects confined to fleets and armies alone; but daily experience teaches us the contrary. For in those countries that are liable to its attack, and in those places in which it happens to become epidemic, its direful consequences are but too obvious. And although almost every writer boasts of the infallibility of the method of cure he proposes, it not unfrequently baffles all his remedies, but proves a disgrace to the healing art.

A PRINCIPAL reason for this appears to have been, that practitioners have unfortunately connected with the term DYSENTERY, the idea of local causes, and have considered the disease as local, and consequently have attempted the cure of it by local remedies: whereas the disease is evidently general, and none but general remedies, I am persuaded, will ever be found adequate to the removal of it.

DR. SYDENHAM, however, amongst all the errors of his cotemporaries, entertained a right idea of the disease. That accurate physician, when speaking of the dysentery, says, “ The dysentery is nothing but a *febris introversa*, or a fever thrown upon the bowels.” It is therefore a great misfortune, that so many attempts have been made to explode this doctrine, from modern universities; because I am confident it is the only one that is founded on fact, and the only one that will bear the test of strict examination.



# Inaugural Differtation.

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## HISTORY OF THE DISEASE.

**T**HE dysentery generally makes its appearance about the end of summer, or beginning of autumn, at which period, intermittent and remittent fevers are most prevalent.

It frequently begins with great lassitude and inability to motion, chilliness, thirst, loss of appetite, head-ach, and other symptoms of fever ; as great heat, nausea, vomiting and uneasiness at the pit of the stomach. It sometimes however appears with various affections of the alimentary canal, as costiveness, and pains resembling those arising from cholic ; and sometimes a purging is the first symptom. But this is not often the case ; for the symptoms above enumerated, generally usher in the disease.

By neglecting these appearances, the disease gradually gains strength, without exciting much fear in the patient, until he is attacked with flatulence, griping, and inclination to go to stool; in indulging this, little is voided, but a degree of tenesmus attends, and every stool is preceded by sharp griping; after this there is generally a short respite from pain; this however, is of but short duration.

THE matter voided by stool is very various. At first it nearly resembles a simple purging, often being composed of thin excrement, and mucus mixed with bile, and more or less blood; sometimes indeed, a pure and unmixed blood appears to be voided.

THE griping continues to increase, and the tenesmus becomes more considerable. The fever also encreases, which is mostly of the remittent kind, and frequently observes a tertian period. The stools also become more frequent and painful, accompanied with a vomiting of a bilious matter; although this symptom often occurs at an early period of the disease.

UNLESS the disease is checked at this period, the stools become more frequent, accompanied with a very foetid smell. The tenesmus also encreasing, nothing excrementitious is voided, ex-

cept when the patient is under the operation of a cathartic ; and even then, it is voided in the form of scyballa, or round balls ; after which there is an alleviation of the pain, griping, and inclination to go to stool. This alleviation from pain is but of short duration ; for the troublesome symptoms returning with redoubled violence, small filamentous or sebaceous matters appear in the stools, which now resemble the *lotura carniū*, or washings of flesh, accompanied with an extremely fœtid and cadaverous smell.

THE pulse, which until this period had been hard, tense, and full, now becomes small and frequent. The countenance appears dejected, the eyes lose their accustomed lustre, the tongue and teeth become very foul, and covered with a tenacious slime, and the patient is troubled with hiccup and great prostration of strength.

THE debility continuing to encrease, the pulse becomes weak, quick, and almost imperceptible ; the stools become more small and frequent, and are often passed involuntarily, accompanied with an intolerably fœtid and cadaverous smell.

THE pain and griping which until now had tormented the unhappy sufferer, suddenly ceasing, both the patient and his friends are elated

with joy at the prospect of his speedy recovery. These hopes however, like the baseless fabric of a vision, are but transitory; for the nausea, vomiting, and hiccup returning, the pulse becoming exceedingly weak and frequent, deglutition, difficult, if not altogether impossible, gangrene takes place, aphthæ make their appearance, delirium† and subfultus tendinum come on, the extremities grow cold, and death, like an insidious enemy, comes and relieves the miserable patient from all his sufferings.

A strangury has sometimes attended this disease, together with a prolapsus ani, which have been very troublesome symptoms to the patient.‡

THE irritability of the intestines, is frequently so much encreased, that the patient will have an immediate call to go to stool, upon taking any thing either in a solid or liquid form, accompanied with a sensation, as if what was just swallowed was running through the bowels.‡

† Delirium is not always an attendant symptom, as some retain their senses to the last.

‡ Wallace on diseases, P. 616.

|| Hunter's Diseases of Jamaica, p. 222.

AUTHORS have mentioned the appearance of lumbrici or round worms, as accompanying this disease, and that they are not unfrequently discharged both by vomit and stool. This however, is only an accidental symptom, not uniformly accompanying the disease, or requiring the use of anthelmintic medicines to remove them.\*

MILIARY eruptions have been observed to attend and follow this, as well as other diseases of a similar nature.†

#### APPEARANCES UPON DISSECTION.

THE dissections of Sir JOHN PRINGLE, Sir GEORGE BAKER, Dr. D. MONRO, Dr. CLEGHORN, and others, shew, that no part of the alimentary canal, escapes the ravages of this destructive disease; but that the stomach, and intestines, have all at one time or other, been found affected. In some places, the intestines appear preternaturally flaccid, while in others there is inflammation, suppuration and gangrene. These

\* May not the appearance of worms in the dysentery be in some measure attributed to the increased irritability of the stomach and intestines, rendering their situation disagreeable, and by their endeavouring to move their position, they are discharged either by vomit or stool, according as they happen to be situated either in the stomach or intestines.

† Zimmerman on Dysentery, p. 14.



appearances in a peculiar manner affect the colon and rectum. The villous coats of these guts are often either abraded or changed into a corrupted slimy substance; small protuberances, or pustules, nearly resembling small-pox, have been observed on the surface of the large intestines, which were of a firm consistence but without a cavity.\* The liver, gall-bladder, pancreas, and most of the abdominal viscera, have been found in a diseased state; but no uniform morbid appearance has been observed in them. From the above effects we are able to determine with clearness the inflammatory nature of the disease.

## DIAGNOSIS.

CONSIDERING the very few diseases with which the dysentery is in any measure liable to be confounded, and the full description which has already been given of it, little on the subject of diagnosis will be necessary—however, as it may possibly be mistaken for diarrhœa or cholera morbus, a short account of the diagnostic symptom may not be totally useless.

THE dysentery may be distinguished from diarrhœa, 1st. By a diarrhœa never being contagi-

\* Pringle's *Dis. Army*. p. 264.—Monro's *Dis. Army*, p. 66.



ous. 2d. By the stools in diarrhœa being composed of thin excrement, whereas in a dysentery of a short duration, nothing excrementitious is voided, except when a brisk purge has been administered : and 3d. By a diarrhœa being seldom attended with fever, whereas dysentery is accompanied with an evident degree of pyrexia.

THE dysentery may be distinguished from cholera morbus, 1. By the more violent and frequent vomiting and purging which attends cholera. 2dly. By cholera seldom being attended with fever, and never being contagious.

#### PROGNOSIS.

IT would indeed be fortunate for us, could we always form a just prognosis in any disease. It would not only add greatly to the fame of the physician, but would be a source of much satisfaction to the friends and relations of the sick. But as long as diseases continue to change so frequently, and during the present imperfect state of medical knowledge, to attempt, hastily to prognosticate, is only to expose ourselves to the ridicule of our patients, and to that of the world. Dr. RUSH observes, that there is scarcely an unfavourable symptom mentioned by authors in this or any other disease, from which he had not seen patients recover ; while on the contrary,

he had seen many die, in whom all the most favourable prognostics were present.\* This alone would teach us to avoid prognosticating rashly; another disadvantage attending it is, that it frequently is the cause of our abandoning our patients when they might, and often do recover under proper treatment.

### REMOTE CAUSES.

BEFORE we proceed to consider the remote causes of dysentery, we shall take into consideration a question, which has long agitated the schools of physic, viz. Is the dysentery a primary and idyopathic disease, independent of any other affection, or is it only a different modification of fever, but from some peculiar circumstances having a determination to the bowels.

THE former opinion has been maintained by many of the most eminent physicians of their days, among whom is the celebrated Dr. CULLEN; that physician, when speaking of the dysentery, says, "upon the whole it is probable that a specific contagion is *always* to be considered, as the remote cause of this disease."† When

\* Rush's Lectures.

† First lines of the Practice of Physic, vol. 1. p. 59. American edition.

we see a man who has so justly been considered as one of the brightest ornaments of the medical world, fall into an error of this kind ; it gives at once a humiliating view of the difficulty of the task, and the uncertainty of the human understanding.

IN order to confute this opinion, it will only be necessary to observe,

I. THAT if contagion was always the cause of this disease, we should see the dysentery prevailing at some season of the year in most countries, as is the case with small-pox, measles, &c. diseases which all allow depend on specific contagion. But instead of this, we find that those countries alone are most subject to the dysentery, which from their exposure to marshy exhalation, are also most liable to intermittent and remittent fevers.

II. IF contagion was always the cause, many persons in the same neighbourhood would be affected with it, as is generally the case with most diseases depending upon specific contagion—exactly the reverse of this is sometimes the case ; for we see the dysentery appearing at the usual season of the year, but for want of the circumstances which favour its production, (to be men-

tioned hereafter) very few are affected with it. And this appears to have given rise to the absurd opinion which we find supported by MOSELEY,† HUNTER,† and some others, that the disease is never contagious.

III. IF the disease always arose from contagion, it would not uniformly appear about the same season of the year; the fact however is, that it generally makes its appearance nearly about the same season of the year, and in that part of the state of Delaware, to which my observations on the disease have been chiefly confined, it appears in a greater or less degree every year, according as the circumstances which favour its production arise.

AFTER having considered this opinion, and offered a few of the most forcible objections to it, we proceed to the consideration of the other opinion mentioned, viz. That the dysentery is only to be considered a *febris introversa*, or a fever determined upon the bowels.

THIS doctrine was first advanced by Dr. SYDENHAM, and although sanctioned by so great authority, physicians have very generally ne-

† On Tropical Diseases.

† Dis. of Jamaica.

glected his opinion, and many and contradictory have been the theories advanced by them. Unfortunately for us the republic of medicine has reaped very little advantage from their disputes; indeed, every attempt to explode the doctrine of SYDENHAM from our schools of physic, has been a great misfortune; for amongst all the theories and speculations that have been advanced since his time, none have been able to stand the test of reason and experience. And for want of a due attention to this opinion, physicians, I am persuaded, have been far less successful in treating this formidable disease than they otherwise would have been; and by this they have been led to attend too much to the stomach and bowels, which are only affected secondarily in this disease, while the arterial system which is primarily and chiefly disordered, has been entirely neglected, or at most, but transiently attended to.

THAT the dysentery is a *febris introverta*, or a fever determined upon the bowels, we infer,

I. FROM the analogy subsisting between the symptoms of fever and those of dysentery; a few of which we shall enumerate.

(a). Lassitude and inability to motion, are frequently observed to be the fore-runners of an

attack of dysentery—now every one who is in the least conversant with fever in general, will readily acknowledge these to be among the precursory symptoms of fever.

(*b*). Chilliness and thirst.—These are in a great measure characteristic of fever in general, they occur in most states of fever, except the malignant; there indeed they are very frequently wanting. But those cases in which chills do not appear, are generally observed to be more unfavourable than those in which chilliness occurs\*.

(*c*). Anorexia, nausea and vomiting, are often observed to take place in Dysentery—these symptoms also very frequently occur in fever,

(*d*). Head-ach is not an unfrequent symptom in this disease—this is another very common symptom of fever.

(*e*). Delirium and subfultus tendinum, very frequently occur in the advanced stage of dysentery—the same thing we daily see taking place, in the advanced stage of certain fevers.

\* Rush's Med. Inq. vol. 4th. p. 155.



(f). And even the pain in the bowels, griping, &c. which have in fact given the name to this disease—we frequently see nearly equaled in certain fevers, particularly in the remittents of low countries.

II. WE infer it, from the dysentery's coming on with general fever\*, in a great many instances—and the local affections of griping, tenesmus and bloody stools not occurring until some considerable time after ; and from general fever, so constantly accompanying it, through its whole course.

III. THE dysentery, as was observed above, occurs towards the end of Summer or beginning of Autumn, at which period intermittent and remittent fevers mostly prevail.

\* It must be remarked, that we are now speaking of those dysenteries, in which, at some period of the disease, the arterial system becomes affected, and which require general remedies to remove them. It is necessary to make this distinction, because there occur some cases of inflammation of the bowels, which owe their origin entirely to local causes ; such as acrid substances taken into the stomach, overloading this organ with aliment, fruit, &c. which, although they may create pain and griping, yet as no fever attends them, and they appear to be merely local affections, and only require local remedies for their relief, are essentially different from those dysenteries we are now treating of.

IV. THOSE countries which from their exposure to marshy exhalation, are most subject to intermittent and remittent fevers, are also most liable to the dysentery.

V. THE dysentery and intermittent and remittent fevers very frequently alternate with and run into each other.

Dr. CLEGHORN tells us, that a tertian is sometimes changed into a dysentery, and a dysentery sometimes becomes a tertian, and that when one of these diseases is suppressed the other ensues; nor is it uncommon, adds the doctor, for dysenteric fevers, to put on the form of tertians, and for paroxysms of tertians to be regularly accompanied with gripes and stools\*.

Dr. HUNTER informs us, that there subsists an intimate connection between the remittent fever and the dysentery, in the island of Jamaica, the one frequently changing into the other, and the two diseases being often complicated with various degrees of violence—the dysentery sometimes ending in a fever, although the fever more frequently terminated in dysentery†.

\* Dif. of Minorca.

† Dif. of Jamaica, p. 218



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SIR JOHN PRINGLE remarks, that it was observable that those who were seized with the dysentery usually escaped the fever, or that if any man had both, it was alternately, so that when the flux began, his fever ceased, and when the flux was relieved, the fever returned, hence he continues, it appeared, that though the two diseases were of a different form, yet they proceeded from a like cause\*.

VI. The dysentery and remittent fevers arise from the same cause, and are only different modifications of the same disease.—“ Dr. CURRIE, in his account of the diseases of the United States†, observes, that the dysentery prevailed at Salem, in New Jersey and the adjacent neighbourhood (whose situation is low and marshy, and borders on the river Delaware) in the month of September 1788, but from the circumstance of its yielding to the common remedies for bilious fever, he concludes, that the local affections were merely symptomatic, and that the disorder was no doubt produced by marsh exhalation.” “ Dr. Clark tells us, that the dysentery depends on the same remote cause as the remittent fever, and in unhealthy seasons is generally epidemic and always contagious‡.” From

\* Dif. of Army, p. 58.      † Page 59 and 60.

‡ Dif. of long voyages, vol. 2, p. 321.

this it would appear, that in all fevers arising from marsh exhalation, there is a strong disposition to affect the stomach and bowels, inasmuch, that the slightest exciting cause, is often capable of producing dysenteric stools.

VII. The contagion of dysentery, has under certain circumstances been known to produce common bilious, and yellow fevers, and vice versa—in support of this I shall state a fact communicated to me by Dr. Woodhouse, Professor of Chemistry, in the University of Pennsylvania.

“ Samuel Yokeum, a private in the army of the United States, was seized with a dysentery in the month of August 1795. The usual remedies with bleeding, were used without effect, and he died on the eighth day. Being greatly reduced in strength, he always evacuated the contents of the intestines upon his bed. He lay near Thomas Bates, in a small unventilated room, which communicated by a door with another apartment, which was occupied by Michael Fimple and his wife, Josiah Kuhn and his wife, Patrick O'Bryan, and the Nurse of the house. Thomas Bates was attacked with the dysentery, a few days before the death of Yokeum, and being treated nearly in the same manner, died likewise on the eighth day. Fimple and O'Bryan were affected with fever and

head-ach, Mrs. Fimple with a mild bilious fever, and Thomas Williams, who set up with Bates, and Josiah Kuhn, who was repeatedly in the room, and held the bowl in which several of the men were bled, were both attacked with a bilious fever, and Jacob Woldram, with a febrile mania. Isaac Le Roux, a stout plethoric man, who often had communication with the sick, and who for improper behaviour was confined some time in a cellar, called the black hole, was seized with a ferocious yellow fever, attended with puking, severe head-ach, red eyes, bleeding from the gums and nose, and universal yellowness over the whole body.—These people all recovered except Yokeum, Bates and Le Roux, who would not submit to the operation of venesection as often as it was indicated. That there may be no deception in the communication of these cases, it is necessary to remark, that the barracks and incampment of the soldiers were surrounded by ponds of stagnant water, and that bilious fevers, in various forms, affected the men in camp, and the citizens in the neighbourhood." From the above fact it not only appears, that the dysentery which attacked Yokeum, owed its origin to marsh miasmata, but that it spread amongst the others by contagion, for almost every person who either from necessity or choice, came into the room in which Yokeum

lay, was in a short time attacked, either with dysentery, a common remitting or yellow fever, according as they were predisposed to the one or the other disease. And it may also be remarked, that the dysentery was contagious during this season, in the Pennsylvania Hospital, and the Dispensary in the city of Philadelphia. And the disease not proving contagious in every case, is by no means a proof that it never is, for the small pox and measles, two of the most contagious of all diseases, are not under every circumstance uniformly so\*.

The contagion of the yellow fever, that almost depopulated the city of Philadelphia in the year 1793, frequently commenced its attack under the form of dysentery†, and the same happened in the year 1794‡.

AND lastly, I infer, the identity of fever and dysentery, from the same remedies being required for the cure of both.—The dysentery, Dr. Zimmerman|| says, was accompanied with almost every symptom of the putrid fever (as

\* Rush's Lectures.

† Rush on the yellow fever, p. 52.

‡ Rush's Med. Inq. vol. 4th, p. 46.

|| On the dysentery, p. 10. et seq.

he terms it) which immediately preceded it; and that they both required the same remedies for their removal\*.

HAVING, we hope, satisfactorily proved, that the dysentery is nothing but a *febris intro-versa*, or a fever determined upon the bowels, we proceed to treat of

### THE REMOTE CAUSES.

THE remote causes of this grade of the intestinal state of fever may be divided, into marsh miasmata, and contagion—on each of which we shall make a few observations: and first,

### OF MARSH MIASMATA.

ON this part of our subject, I confess myself not perfectly satisfied; its nature and properties being so imperfectly understood. But as this has always been a *desideratum*, even among the fathers of physic, an unexperienced student, will

\* “ From the perfect resemblance of the putrid fever with “ our dysentery, we can therefore most clearly determine, the “ species of this last mentioned disease (dysentery) and that it “ was accompanied with a bilious, or as it is termed, a putrid “ fever.” *Zimmerman on dysentery*, p. 18.



the more readily be excused for passing it over in a transitory manner. We know that there arises a certain noxious vapour from marshes and stagnant waters, which has been found from long and attentive observation, to be the principle source of all the diseases to which those countries in which they are found, are so very subject and which has obtained the name of marsh miasmata. But of the nature and properties of this miasmata, we must in a great measure judge, from its effects only, until its nature and constituent parts shall be better understood.

It has however, almost uniformly been observed, that marsh miasmata exerts a specific action upon the liver, and by its stimulus, excites that viscus, to a more copious secretion, and exertion of bile; as is fully proved by the bilious discharges, and yellowness of the eyes, skin, &c. which so commonly accompany the bilious state of fever.—It has also been proved by Dr. Franklin\*, that marsh miasmata contains a considerable quantity of hydrogenous gas, or inflammable air, in its composition.—May not this hydrogenous

\* Dr. Franklin in a letter to Dr. Priestley, dated April 10th. 1774, mentions, his having succeeded several times in firing the air arising from stagnant ponds of water, after stirring the bottom with a stick: and in doing which he once caught an intermittent fever. *Priestley on air*, vol. 1, p. 321, et seq.

gas be one cause of its acting specifically on the liver, while its other component part (whatever that may hereafter be found to be) may have a greater disposition to affect the arterial system and produce fever. The analogy subsisting between its action and that of ardent spirits, would seem to render this conjecture probable. For it is generally observable, that those who are in the custom of drinking spirituous liquors to excess, are very frequently troubled with sickness and vomiting, especially in the morning, which is only to be relieved by discharging a quantity of bile. Now we know that spirituous liquors contains a large quantity of hydrogen; this may act specifically on the liver, and occasion the preternatural and morbid excretion of bile.† This I would only advance as a probable conjecture; time and future experiments I have no doubt, will determine the truth or falacy of it.

Two circumstances are absolutely requisite to the production of marsh miasmata, viz. Heat and moisture. The heat it is said must be at least to

† Another fact in confirmation of this opinion is, that those persons who use spirituous liquors in excess, are very subject to Hepatitis; now we know that Hepatitis is a disease attending those countries that are exposed to marshy exhalation, and which is considered as a bilious fever accompanied with a local affection of the liver.

the eightieth degree of Fahrenheit's scale.† Hence we learn the reason why uniformly wet or dry seasons are generally healthy. But to render a uniformly dry season healthy, it is necessary that there should be frequent gentle breezes, that the air may be agitated and kept from stagnating; for without this, diseases will most undoubtedly be the consequence. But frequent vicissitudes of weather from wet to dry, which being only sufficient to produce moisture, when followed by warm and sultry weather, will uniformly be found to produce exhalation. That this is the case every practitioner who has had opportunity of attending to the subject can attest. And hence too, we are able to account, why either cold or a great quantity of rain should so constantly check those diseases that arise from marsh miasmata, of which many proofs might be adduced were it necessary or consistent with the bounds prescribed for this dissertation.

THE second remote cause of dysentery is **CONTAGION**. That this is very often the cause of this disease, few have attempted to deny; for whoever will attend to its direful effects, both in fleets and armies, and when it happens to become epidemic, either in large cities, or in the coun-

† Rush's Lectures.



try, will at once see the melancholy, yet too certain proofs of the existence of contagion—Of the precise nature of this contagion we are as yet wholly unacquainted ; we only know, that when introduced into the body, it must, like marsh miasmata, prove a stimulus to the sanguiferous, and particularly to the arterial system ; and by a stimulating power only, is it capable of producing fever. Dr. RUSH asserts, “ that there can be  
 “ only one remote cause of fever, namely, sti-  
 “ mulus ; whether from heat succeeding to cold,  
 “ marsh, or human miasmata, contagions and  
 “ poisons of all kinds, intemperance, passions of  
 “ the mind, &c. all act by a stimulating power  
 “ in producing fever.”\*

THE contagion of the dysentery, like most other contagions, may be communicated by contact, or breathing infected air in confined places, where many sick are crowded together. Another, and not less fruitful source is, the excrements of patients labouring under this disease ; this indeed appears to be the principle source of contagion in armies. Hence we see the propriety of removing the excrement as soon as voided, and of frequently changing the bed and body-linen of the patients ; this, by preserving cleanliness, will

\* Medical Enquiries, Vol. 4. p. 132.

be one of the best means of preventing its generation. The cloaths and every thing about the sick have been found to convey the contagion of dysentery; of this several instances are mentioned in the works of medical writers.—Crouding the sick together in tents and hospitals are also fruitful sources of it in this disease. This would teach us to have our patients placed in large and airy situations, and the bed should be placed in the middle of the room to prevent the contagion from adhering to the walls, which it has been found to do, and it is by that means accumulated, and a constant source of the disease is kept up.

AFTER endeavouring to establish the identity of fever and dysentery, and having pointed out its principal remote causes, it only now remains for us to attempt an explanation, why fever sometimes makes its appearance under the form of dysentery?—or, in other words, its PREDISPOSING and EXCITING causes.

IN those situations, and during those seasons, which are found to be productive of marshy exhalation, the miasmata being equally applied to a whole neighbourhood, they must consequently all be impregnated with the seeds of disease. But the stimulus of the miasmata not always being of

itself of sufficient force to produce fever ; and the excitability of the system (by which we understand a capability or power in the system of being acted upon by the application of stimuli) not being accumulated or increased by predisposing debility ; the poison lays dormant in the body, and waits only the existence of an exciting cause to call it into action. If in this situation a person is exposed to great fatigue, either of body or mind, from long walking, great heat, or the inordinate exercise of the faculties or passions of the mind, indirect debility is produced ; the excitability of the system is increased in consequence of this debility, which debility will then act as a predisposing cause : the poison which until now had lain dormant, acts with sufficient force to produce an irregular action, and a fever is produced, mostly of an intermittent or remittent type. But again, if a person after being exposed to this noxious exhalation, as in the former case, is exposed to cold, night-air, heavy rains, dews, &c. the consequence is, that the perspiration is checked, and the humours are determined in upon the bowels, they consequently become debilitated and highly exciteable ; the stimulus of the miasmata will then act with sufficient force to produce irregular action and fever, but this fever in consequence of the weak and exciteable

state of the stomach and bowels, is determined peculiarly upon them, and a dysentery is produced. For it is uniformly observable, that where from any cause, a part becomes debilitated, there the violence of all febrile affections will centre. That cold, dews, moisture, &c. are the principal exciting causes of dysentery we infer from the following facts.—Sir JOHN PRINGLE in his book on the diseases of the army, remarks, “ that no epidemic ever ensues from the greatest heat, until the perspiration was suppressed, by cold, wet cloaths, wet beds, dews or fogs. In the campaign of 1743, though the weather continued hot, yet there was not much sickness, until the men lay wet after the battle of Dettengen, after which the dysentery immediately appeared. And again, he continues, “ in 1747, the nights growing cold, the dews and night-fogs occasioning a stoppage of perspiration again brought on the disease.”\* The same author further observes, “ that from the 20th of July to the 10th of September, the weather was very hot and sultry, yet until the middle of August, the nights were equally warm with the days, during which time there was no appearance of the dysentery ; after that time however, the nights growing cold, and the dews beginning to fall, perspiration was

\* Page 79, 80.

checked, and the dysentery soon took its rise,"† and in page 56 he observes, "that in the beginning of October a considerable quantity of rain fell, the consequence was, that those who were exposed to it were immediately seized with the dysentery. And hence we are enabled to account for the appearance of dysentery in high situations adjoining marshy places, while intermittent and remittent fevers prevail in the neighbourhood below, as mentioned by Dr. RUSH.\* Dr. BLANE also tells us of a violent dysentery being produced on board a ship upon the first exposure to cold weather, of which sixteen died; the ship until that time had been remarkably healthy.‡ Nor is it uncommon for other states of fever, besides those arising from marsh miasmata to affect the stomach and bowels, and thence occasion a true dysentery. The jail fever has often been known to put on the form of dysentery, particularly during winter, when the weather becoming cold, perspiration was checked, and the humours determined upon the bowels; Sir JOHN PRINGLE observes, "that in the jail fever if the sick lay warm and have no preceding flux, they are generally costive; but when they lie cold, the pores of the skin being

† Page 55.

\* Rush's Lectures.

‡ On seamen, p. 75.



shut a diarrhœa is a common symptom, but is not critical, and in the worst cases a flux appears in the last stage, accompanied with all the characteristic symptoms of dysentery.†

### PROXIMATE CAUSE.

THE proximate cause of this disease has much engaged the attention of physicians, and many have been the opinions advanced by them; and many, and altogether unanswerable have been the objections brought against them. Some indeed need only be mentioned to convince the unprejudiced reader of their fallacy. But as neither time will admit, nor necessity require us to enter into a minute detail of the theories of authors to the present time, we shall therefore only take notice of the one now most prevalent, viz. That the proximate cause of dysentery is to be looked for, in a spasmodic constriction of the colon. Although this hypothesis has been sanctioned by many of the most eminent practitioners, yet to me it appears entirely unsatisfactory. For as well might we consider, the dry tongue, thirst, pain in the head, high coloured urine, &c. which accompany a paroxysm of an intermittent fever as causes, as to consider this constrict-

† *Dis. army*, 5th edi. p. 292.

tion a cause. That a spasmodic constriction of the colon does take place in this disease, none we presume will deny; but this appears to be an effect rather than a cause of the disease; for we know, that stimulus, when in a disproportion to the excitability, either produces a convulsive action in the part, or goes so far as to destroy it entirely by death. Now the intestines labouring under debility, from the causes above enumerated, and being in consequence of this debility, rendered highly excitable; the stimulus of distention produced in them, by the sudden stoppage of the perspiration, and its consequent determination upon them, may occasion a spasmodic constriction in them. But again, should this argument be deemed inconclusive, it may be remarked, that a large majority of the cases of dysentery come on with the usual symptoms of fever; and the constriction of the colon does not take place for a considerable length of time afterwards; whereas if this constriction was the proximate cause, it should regularly appear at the formation of the disease; the contrary however is almost uniformly the case.

THE proximate cause of fever in general, and consequently of the intestinal state of fever, appears to consist in an "irregular convulsive action of the arterial system"—but this irregular

action, in consequence of the weak and debilitated state of the stomach and bowels, is particularly determined upon them; hence they suffer from pain, inflammation, suppuration, gangrene, &c. as is the case with other affections of a similar nature. For this opinion we are indebted to the Professor of the Institutes in this University. I have adopted it, because it appears to me to be just, and the only theory that will accord with the phenomena of the disease, and the only one that will bear the test of strict examination.

#### C U R E.

IT must be evident to the most superficial observer, that the cure of this disease must in a great measure be regulated, by the duration and violence of the symptoms above enumerated. When the disease is recent, and the fever moderate, gentle purging and diaphoretic medicines, will generally be found effectual in removing the complaint. But when (as not unfrequently happens) the pulse is hard, full or frequent, the heat, thirst and head-ach considerable, accompanied with a great degree of tenesmus, and inclination to go to stool, distressing sickness at stomach, and intolerable pain, the disease instead of being light and transitory, is frequently extremely violent and obstinate, and requires the most powerful reme-



dies to subdue it ; which we shall now proceed to consider,

**I. OF BLOOD-LETTING.** When the pulse is full, quick or hard, or when the patient complains of excruciating pain in his head or bowels ; blood-letting will be a very useful remedy. Many practitioners have been very much averse to it, and contended that it was never necessary in this disease ; but time and experience, have fully decided, in favour of it.

IN determining the quantity necessary to be taken, as no positive rule can be laid down, much must be left to the physician's own judgment ; we must therefore be wholly guided, by the habit of the patient, season of the year, but above all by the state of the pulse. This has very elegantly been called the dial plate of the system in all febrile affections\* By an accurate attention to this, we shall seldom be led into error, respecting the true state of our patient ; and by it, we should be in a great measure guided in this, as well as in all other febrile complaints. The physician, who without bias, is guided wholly by the state of the system, practises upon the firm basis of sense and reason. While others, who prescribe for the

\* Rush's Lectures.

name of a disease, or who are biassed in favour of a particular hypothesis, and who labour to accommodate every symptom to their own theory, will always remain in doubt and obscurity, respecting the propriety or impropriety of their remedies; this will induce a feeble and undecided practice, and many I am persuaded, have fallen victims to it. However, the best general rule would be, to continue the use of the lancet, as long as the pulse, continues quick, full or tense, or the pain in the head and bowels violent.

II. EMETICS. In the beginning of the disease, if the stomach is affected with nausea and vomiting, an emetic should be administered, which by evacuating the contents of the stomach, will procure an alleviation of the troublesome symptoms, and allow time for the application of more powerful remedies.

A contrariety of opinions have prevailed among physicians, respecting the most proper emetic in this disease. Some have lavished great encomiums on Ipecacuanha, it has even been considered by some as a specific in the cure of dysentery. And if this, or any other medicine really possessed this quality, it would indeed be an invaluable remedy. But from any trials I have as yet seen made of it, I do not

think myself warranted in ascribing any such happy effects to it; its operation is by no means so certain, nor is it so completely under the direction of the physician, as the emetic tartar, for which reason the emetic tartar appears preferable to ipecacuanha, in this disease.

THE emetic should be given in such manner, as not only to produce vomiting, but also act on the intestines and skin, so as to prove cathartic and diaphoretic. To answer this intention, small doses of emetic tartar, may be given and repeated every half hour until vomiting is produced. The administering it in this manner allows the first doses to pass the Pylorus and operate on the intestines, and in this manner our expectations will generally be answered.

THE Vitrum Ceratum Antimonii was for a long time supposed to be possessed of singular virtues in the cure of dysentery; Sir John Pringle speaks highly in its favour. But from its uncertain and frequently harsh operation, it has very properly been laid aside by most practitioners.

III. PURGATIVES. These are a principal remedy in dysentery, and upon their judicious administration, the cure will in a great measure depend. They act very powerfully, in reducing

the morbid excitement in the blood-vessels ; they also relieve the griping and tenesmus, which are among the most troublesome symptoms attending this disease, and bring away scybala, which if allowed to remain, would irritate the intestines, and prove a source of harrassing pain to the patient. Dr. Pringle and Dr. Clark place great dependence on them. Dr. Clark even advises the daily use of them until the tenesmus, bloody stools and griping are removed. But however necessary this practice might have been in the country where he practised, I have seldom seen the dysentery, attended with so great a degree of violence, as to render the so frequent use of purgatives necessary. In most cases, giving a purge every second day will be found quite sufficient, when joined with the other remedies to be mentioned hereafter.

THE Neutral salts have been employed with advantage, particularly those of Glauber and Epsom, or the Sal Catharticus Amarus, however it does not appear to be of much consequence, which of them are employed, as their operation and effect are all very similar.

CALOMEL has often been used with success as a purgative in this disease, and it appears particularly useful in the beginning, as it in a man-

ner loosens and expels the bile from the stomach, intestines and biliary ducts, besides answering every intention of a common purgative. The best way of administering calomel, is to combine it with a sufficient quantity of Jalap, to enable it to procure a plentiful evacuation of the contents of the stomach and bowels.

THE *Ol. Ricini* or castor oil, is another proper purgative in this disease; indeed, from its oily nature, it appears peculiarly suited to the cure of dysentery. It often procures ease to the patient before it operates at all; and some authors have even attributed an anodyne quality to it; and when it agrees with the stomach, it always procures copious, and quick evacuations.

RHEUBARB was formerly a very favourite remedy. But from its possessing an astringent quality, and from the well known fact of its increasing the griping, and the tenesmus being seldom or never mitigated by its use, it does not seem to be a proper remedy in the beginning of the disease. But when the febrile symptoms have abated, if (as sometimes happens) a troublesome diarrhoea or looseness, attends the patient, then rhubarb will be a very useful remedy; and in such cases it has often been used with the greatest advantage.



IV. SWEATING. The use of sweating in dysentery, has alternately been extolled and condemned by practical writers for a long time. But if we consider the dysentery as a *febris introversa*, or, a fever thrown upon the intestines, sweating, as occasioning a determination from the bowels to the skin, would appear very well adapted to its cure, and when properly managed it has been found to be productive of the greatest success. But it cannot be employed, either with safety or advantage, until the inflammatory action of the blood-vessels has been considerably reduced by blood-letting and purging. For while the system labours under a high degree of inflammatory diathesis, it is raised above the action of sweating medicines; and in this situation, they only produce congestion in some of the viscera, and aggravate every symptom of the disease. Add to this the difficulty and almost impossibility of producing sweat while the system labours under a high degree of inflammatory action. This appears to have been the principal reason, why authors have differed so much about the indiscriminate use of sweating in dysentery; and indeed there are very few remedies that would at all times be useful in the cure of any disease.

IN the administration of sweating medicines, we must not employ any thing of a highly stimu-

lant nature; the sweat should be universal, and produced with as little irritation as possible. Small doses of Tart. Emet. or James's powder may be given and repeated every half hour until a copious perspiration is produced, which should be kept up by plentiful dilution, with any tepid drink most agreeable to the patient. In this manner Dr. MOSELEY says he has cured many obstinate dysenteries which had resisted every other remedy.

V. INJECTIONS. When the pain, griping, and tenesmus are violent, mucilaginous and oily injections are of peculiar service. They sheath the intestines, and defend them from the acrimony which is frequently present in them; they also in a great measure supply the place of the natural mucus, which is so often abraded and discharged with the stools; and they assist very much in discharging indurated feces, from the colon and rectum, which by their stimulus would tend greatly to aggravate the disease.

WHEN the pain and inflammation still continue violent, injections of cold water have been used with the greatest success, these acting as sedatives on the intestines, (the seat of the inflammation) will prove one of the best remedies for removing the pain and inflammation, and pre-



venting it from terminating in gangrene, which we know very frequently occurs ; and which according to Dr. CLARK,\* is in the worst cases apt to take place speedily.

VI. OPIUM. The use of opium in dysentery is very highly recommended, and great dependence has been placed upon it by some physicians, among whom is the great Dr. SYDENHAM, he even trusted the cure in a number of cases entirely to it. Others, on the contrary, contend, that it can never be employed with safety, until the stomach and bowels have been thoroughly evacuated. The trusting the cure entirely to opium appears very vague ; for unless the dysentery is very slight, opium alone would rather tend to encrease the troublesome symptoms, and after the temporary ease obtained from its use was gone off, it would leave the patient in a much worse situation than before it was administered. But to obviate this objection, it may be combined with the purgative, and in this manner it will procure temporary ease, while every effect will be obtained from the cathartic that there would have been without the combination, while the bad effects of the opium will be entirely obviated.

\* Diseases of Long Voyages.

IN this manner opium may be given in doses, proportioned to the age of the patient and violence of the disease ; and the usual dose may be encreased at night, to procure ease and prevent irritation. The small disadvantage attending the stimulant and astringent quality of the opium, is more than counterbalanced by the ease and sleep it procures the sick.

VII. BLISTERS, and other external applications. In this, as in other local affections, blisters have been found very useful. The most proper place for their application in dysentery, is, the abdomen, or near the part affected ; however if from any circumstance they cannot be conveniently applied there, the arms, thighs, and ankles may be substituted.

To procure temporary ease to the patient, fomentations to the abdomen have been used with advantage ; but their effects are very transitory, and therefore little dependence should be placed upon them.

VIII. ASTRINGENTS. Astringent medicines are not unfrequently used in this disease, and in my opinion, very often with manifest disadvantage. When they are given early, and before the primæ viæ are sufficiently cleansed, or

while a considerable degree of fever remains, they are evidently pernicious; for by their astringency, they aggravate the tenesmus, produce constipation of the bowels, and render every symptom worse than before their use. But it sometimes happens, that after all the febrile symptoms have abated, a troublesome diarrhœa harasses the patient, which proceeds from irritation or debility of the intestines; when this occurs, astringents may be used with advantage.

VARIOUS medicines of this class have been used, particularly, diascordium, compound powder of bole, and the simarouba. But Ipecacuanha combined with opium appears to be preferable to any of them;\* for it not only proves sufficiently astringent, but also acts as a diaphoretic; for which reason it appears better adapted to the cure of dysentery than any of the others mentioned.

THESE are the common remedies used in this troublesome disease; but it sometimes happens, that, notwithstanding the use of all these, the disease still continues obstinate, and resists their combined application. When this should unfortunately happen to be the case, recourse

\* Clark on Long Voyages, vol. 2. p. 331.

may be had to the noble, yet too unpopular remedy of,

IX. SALIVATION. In recommending salivation for the cure of dysentery, I am conscious of the prejudices that have prevailed against the use of mercury. The time has been when the character of a physician would have suffered greatly, were it known that he used a single grain of this medicine; in the cure of any febrile affection. That time however, is now past, and Mercury is no longer looked upon as a pest to human society. This noble remedy has been emphatically called “the Sampson of the Materia Medica\*” and it is certain, that very few medicines have a more powerful action, when introduced into the system, than mercury; and very few from which more can be expected, when properly applied.

Dr. Clark is the first practical writer who has recommended a Ptyalism in this disease, and after trying it in a number of cases, with the greatest success, he was so well convinced of its singular efficacy, that he considered his patients entirely free from danger, as soon as their salivary glands became affected; for the gripes and te-

\* Rush's Med. Inq. vol. 4, p. 218.

nesmus were immediately relieved, and natural evacuations, and a return of health followed\*.

Dr. BALFOUR† and Dr. James Lind‡ have both said much in its favour as a remedy for dysentery; and both of them speak of the singular success, which attended it in their hands.

Dr. CLARK's method of administering mercury was, to give a sufficient dose of Calomel at bed time, combined with a small quantity of opium, to procure ease to the patient. He gives the preference to Calomel to any other mercurial preparation, in the beginning of the disease, on account of its purgative quality: But should it not operate as a purgative, small doses of neutral salts, or castor oil, may be given occasionally, to keep the bowels sufficiently open. This is the practice recommended by Dr. Clark. But when the disease is very violent, and we apprehend danger from a delay—then we should not trust to Calomel alone, but together with it, strong mercurial ointment should be rubbed in, upon the inside

\* Dif. of long vol. 2. p. 344.

† Treatise on the putrid intestinal remitting fever, p. 142 et seq.

‡ London Medical Journal, vol. 8. p. 153.



of the thighs. And in very urgent cases, the gums may be rubbed with Calomel, as practised by Dr. Clare, and in this manner the salivary glands will soon be affected. In the administration of mercury care should be taken not to give it in such quantities as to produce great spitting, particularly in those patients on whom the disease has continued a considerable length of time, or in those, whose systems have been greatly debilitated by previous complaints. For the good effects of mercury are not so much to be attributed to its power as an evacuant, as to its exciting an inflammation and effusion in the throat, and by that means diverting them from the stomach and intestines, which being more vital parts, would suffer much more from such inflammation and its consequences.

These are the remedies proper during the first or inflammatory stage of the disease, but it very frequently happens, that after all the febrile symptoms have abated, the patient is troubled with frequent attacks of griping and inclination to go to stool, which depends on the debilitated state of the intestines rendering them highly irritable and easily excited. An intermittent or remittent fever also, sometimes follow ; in these circumstances recourse may be had to cordial and tonic remedies, among which, Bark, Wine, Columbo



and snake-root claim the preference, and by a judicious use, they will generally succeed in removing these complaints.

THE diet it is obvious, must vary very much according to the state of the patient. When he is of a strong plethoric habit, or when the inflammatory symptoms run high, he should refrain from any thing of a strong and stimulant nature. Weak broths, if the stomach will retain them, are very proper, however as this is not always the case, jellies, sago, tapioca, and all such mucilaginous substances will be found very well adapted to the complaint; and a liberal use of these should be recommended, they not only afford sufficient nourishment, but are very useful in allaying the violent pain and griping, which is so extremely troublesome to the patient.

FOR drink, he may take rice-water, barley-water, thin gruel, and the like, and when the griping is very troublesome, the almond emulsion has been found to afford considerable ease.

THIS is the proper diet and drink, during the continuance of the inflammatory symptoms, but when they have abated, and the patient complains of great weakness, a more generous diet may be allowed, consisting in addition to the for-

mer articles, of a little fresh meat, especially of the white meats, either roasted or boiled, as is most agreeable, and with this a little wine and water may be allowed, at the same time care must be taken, that he eats or drinks very little at a time, for the stomach and other digestive organs being in a weak and debilitated situation, would by any irregularities be easily affected, which might occasion a relapse.

THE patient should be allowed the moderate use of ripe fruits, during the continuance of the disease, for notwithstanding many authors are of opinion that it is hurtful, and some even go so far as to say, that it is often the cause of the disease; its efficacy is incontrovertibly established, on the authority of Degner, Pringle, Tissot, Zimmerman and many others: Pringle and Tissot go so far as to consider the use of ripe fruit, as not only harmless, but even almost a specific, both in the prevention and cure of dysentery.

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ON concluding this dissertation, I should do injustice to my own feelings, were I to omit thus publicly to acknowledge, the many obligations I

feel myself under, to the professors of the different branches of medicine in this university. Accept gentlemen, my warmest wishes for your prosperity. May you meet with the reward to which your merit so justly entitles you ; may your lives be as happy as they have been useful ; and may your endeavours to improve the science of medicine, be crowned with as much honour to yourselves, as they have been beneficial to mankind.







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